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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,694	07/21/2003	Thomas K. Allen	34169	5340

7590 08/27/2004
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EXAMINER

TOOMER, CEPHIA D

ART UNIT PAPER NUMBER

1714

DATE MAILED: 08/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/623,694

Applicant(s)

ALLEN ET AL.

Examiner

Cephia D. Toomer

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-14 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 15-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892).
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/03.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Specification

1. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3 and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Faust (US 3,409,560).

Faust teaches a metal oxide dispersion suitable for use in a fuel oil composition. The dispersion comprises 25-50% of a metal oxide, a total of 8-18% of petroleum sulfonates (surfactants) and 14 to about 59% of a hydrocarbon oil (carrier) (see abstract and col. 1, lines 60-64).

The sulfonates include polydodecylbenzene sulfonate (see col. 2, lines 57-61). Faust teaches that the dispersion does not separate out or form deposit on storage even at temperatures as high as 175 F or as low as -10 F (see col. 3, lines 57-62).

Accordingly, Faust teaching all the material limitations of the claims, anticipates the claims.

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4. Claims 1, 2, 4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 09-017626.

JP teaches a magnetic fluid of silicone oil base comprising 6-40% by weight of magnetic metal oxide, 30-91 % by weight silicone oil (carrier) and 3-20% by weight of a carboxyl containing surfactant (see abstract and page 4, paragraph 0029). The carboxyl containing surfactant may be a carboxylic acid or its salt (see paragraph 0020). The metal oxides are MgO , ZnO and Fe₂O₃ (see paragraph 0024). Since JP teaches all of the material limitations and proportions, it would inherently remain stable for at least one month. The dispersion is prepared by adding the surfactant and carrier to the metal oxide (see paragraphs 0033-0036).

Accordingly, JP teaching all the material limitations of the claims, anticipates the claims.

5. Claims 1-5 and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Cheng (US 4,229,309).

Cheng teaches a magnesium oxide dispersion containing process fluids (carrier), and oleic acid surfactant (see abstract; col. 2, lines 1-5 and 12-19). The amount of the oxide present in the dispersion is 1-32%; the amount of the dispersant and process fluid ranges from 100% dispersant and 0% fluid to 0.01% dispersant and 99.99% fluid (see col. 2, lines 33-49). Cheng teaches that the dispersion may be used as a combination anti-corrosion and acidic neutralization additive during the combustion of fuels such as residual fuel or fuels containing vanadium(see col. 5, lines 19-22, 28-29).

Accordingly, Cheng teaching all the material limitations of the claims, anticipates the claims.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3, 15, and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09-017626.

JP has been discussed above. JP does not specifically teach that the surfactant is oleic acid (claims 3 and 21). However, the general teaching of carboxylic acids encompasses oleic and renders the claims obvious.

JP does not specifically teach the claimed particle size or surface area of the oxide (claim 15); however, JP teaches that the prior art particles are about 10nm. This teaching suggests that the particles of JP are in that particle size range and therefore would also possess the claimed surface area, absent evidence to the contrary.

8. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09-017626 as applied to claims above, and further in view of DE 4316301.

JP fails to teach that the metal oxide particles are pulverized. However, DE teaches this limitation. DE teaches that magnetic metal oxides are pulverized in a mill before use (see abstract in its entirety).

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It would have been obvious to one of ordinary skill in the art to have pulverized the metal oxide particles because the skilled artisan would recognize that in order to maintain the suspension the particles would have to be pulverized to a particle size of 10nm or less, as required by the prior art.


9. Claims 6-14 are allowable because the prior art fails to teach or suggest pulverizing the metal oxide while dispersed in a slurry containing a carrier.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cephia D. Toomer whose telephone number is 571-272-1126. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Cephia D. Toomer
Primary Examiner
Art Unit 1714

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